

### **Remarks**

The Applicants thank the Examiner for the detailed study of the application. The Applicants also note with appreciation the indication that Claims 3, 4 and 11-14 would be allowable if rewritten in independent form with appropriate amendments to overcome the rejection of the intervening claims. The Applicants understand this to mean that Claims 3, 4 and 11-14 would be allowable if the enablement rejection under 35 U.S.C. §112 were overcome, and that the utility rejection under 35 U.S.C. §101 is not applicable to Claims 3, 4 and 11-14.

### ***Claim Amendments***

Claims 1-3 have been cancelled. New independent Claims 16 and 17 have been added to the application. New Claims 16 and 17 incorporate the original subject matter of Claim 1, but are each written as a set of method steps. The new independent claims also include the subject matter of original dependent Claims 2 and 3. In addition, the step of performing a prediction has been included in Claim 16, and the step of performing a control has been included in Claim 17. Support for the new claim elements can be found in the specification, for example, in the second paragraph on page 20.

Each of the original dependent claims is now dependent on Claim 16. As discussed below, Claim 7 has also been amended in accordance with the Examiner's helpful suggestion to overcome a rejection under 35 U.S.C. §112 ¶ 2. New Claim 18 has been added to the application to recite the subject matter deleted from original Claim 7. New dependent Claims 19-30 are substantially identical to Claims 4-14 and 18, but depend from Claim 17 rather than Claim 16.

### *Information Disclosure Statement*

The Official Action asserts that the Information Disclosure Statement (“IDS”) filed October 28, 2004 fails to comply with 37 C.F.R. §1.98(a)(2) because copies of foreign references and non-patent publications were not submitted. As such, Form 1449 has been returned with these references crossed out.

It is respectfully submitted that copies of all foreign references and non-patent publications were submitted to the Patent Office with an IDS on May 10, 2000. The submission of copies of these references is evidenced by the return postcard stamped “Received” by the Patent Office on May 16, 2000. A copy of the postcard is enclosed. Thus, the Applicants have fully complied with 37 C.F.R. §1.98(a)(2). However, subsequent to the submission of the IDS and copies of the references, the Patent Office lost the file for this matter, together with all of the references. The error on the part of the Patent Office does not negate the Applicants’ compliance with 37 C.F.R. §1.98(a)(2).

An additional copy of each reference listed on Form 1449, which was originally filed with the IDS on May 10, 2000, is submitted herewith along with a clean copy of the Form 1449 for the Examiner’s convenience. It is respectfully requested that the Examiner consider all of the references and make them of record as required by 37 C.F.R. §1.97(b)(3). Because the loss of the originally-submitted references was an error on the part of the Patent Office, and not that of the Applicants, no fee is due in connection with this resubmission.

### *Objections to the Specification*

The specification has been objected to based on the terms “eg” and “(see below)”. Several occurrences of these terms throughout the specification have been corrected by the foregoing amendment. The Applicants thank the Examiner for this helpful suggestion.

The specification has also been objected to based on the incorporation by reference of K. Pawelzik, *et al.*, “Neural Computation”, vol. 8, 1996. In this respect, the Official Action indicates that the incorporated subject matter is essential to practicing the invention.

According to M.P.E.P. §608.01(p), essential material is that which is necessary to (1) describe the claimed invention, (2) provide an enabling disclosure of the claimed invention, or (3) describe the best mode. Nonessential subject matter, on the other hand, is that which is referred to for purposes of indicating the background of the invention or for illustrating the state of the art.

It is respectfully submitted that the subject matter incorporated from Pawelzik is referred to for the purpose of illustrating the state of the art. It is further submitted that the claims are fully enabled by the specification as presently written, without any need to literally set forth the subject matter of Pawelzik. Therefore, the material incorporated by reference is not “essential”. The reasons why the Pawelzik subject matter represents a mere illustration of the state of the art, as opposed to essential subject matter, are discussed in more detail below in connection with the substantive rejection under 35 U.S.C. §112 ¶1.

#### *Claim Objection*

Claim 5 has been objected to under 37 C.F.R. §1.75(c) as allegedly being in improper form due to editing marks on the copy of the claims at the Patent Office. The Applicants are unable to comment on the editing marks because the exact nature of the marks is unclear. However, the Applicants respectfully submit that the objection is moot in light of the amendment to Claim 5 set forth above. Specifically, Claim 5 has been amended to depend from new Claim 16. Thus, there is no longer any confusion as to the dependency of the claim. For this reason, it is respectfully requested that the objection be reconsidered and withdrawn.

*Claim Rejections under 35 U.S.C. §112 ¶1*

Claims 1-15 have been rejected under 35 U.S.C. §112 ¶1 as being based on a disclosure that is allegedly non-enabling. Specifically, the Official Action indicates that switch segmentation and drift segmentation are not enabled by the disclosure because certain subject matter relating to switch and drift segmentation has been incorporated by reference from Pawelzik, the non-patent reference discussed above.

The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosure in the patent coupled with information known in the art without undue experimentation. *United States v. Teletronics Inc.*, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988). Information that is already known in the art need not be repeated in the specification. In fact, a patent specification preferably omits that which is well known in the art. *In re Buchner* 18 USPQ2d 1331, 1332 (Fed. Cir. 1991); *see also* M.P.E.P. §2164.01.

It is respectfully submitted that switch segmentation is described in the specification in sufficient detail so as to enable one skilled in the art to make and use the invention without the need to reference Pawelzik. Switch segmentation is described in detail, for example, in the specification from page 8, line 1 through page 11, line 3. The disclosure provided in this and other portions of the specification, combined with the knowledge of those skilled in the art, is sufficient to enable the skilled artisan to make and use the claimed invention. If one of lesser skill in the art had questions regarding switch segmentation, one could reference Pawelzik or other literature available in the art. However, the subject matter incorporated from Pawelzik merely represents the state of the art and the knowledge that one of ordinary skill would already have. Because the relevant subject matter is within the ordinary skill of the art, the subject matter of Pawelzik is not necessary for an understanding of how to make and use the invention. Therefore, Pawelzik is not “essential” subject

matter, and the specification is fully enabling without literally setting forth the subject matter therefrom.

It is respectfully submitted that drift segmentation is similarly enabled by the specification as presently written. Drift segmentation is described in the specification, for example, from page 11, line 4 through page 15. Like switch segmentation, given a fair reading of the specification and the knowledge available to those of ordinary skill in the art, the skilled artisan would know how to make and use the invention without undue experimentation. Therefore, the claim element relating to drift segmentation is also fully enabled by the written description without literally setting forth any additional subject matter from an incorporated reference. For these reasons, it is respectfully requested that the rejection under 35 U.S.C. §112 ¶1 be reconsidered and withdrawn.

*Claim Rejection under 35 U.S.C. §112 ¶2*

Claim 7 has been rejected under 35 U.S.C. §112 ¶2 as being allegedly indefinite based on the phrase “the values a(s) are restricted to a certain resolution figure R and/or are equidistant”. Claim 7 has been amended to omit the phrase “and/or are equidistant”. The Applicants thank the Examiner for this helpful suggestion. It is now clear that Claim 7 further defines the values a(s) as being restricted to a certain resolution figure R. Because the claim is now definite, it is respectfully requested that the rejection under 35 U.S.C. §112 ¶2 be reconsidered and withdrawn.

*Claim Rejection under 35 U.S.C. §101*

Claims 1, 2, 5-10 and 15 have been rejected under 35 U.S.C. §101. In this respect, the Official Action characterizes the subject matter of Claims 1, 2, 5-10 and 15 as mere mathematical algorithms that do not provide a useful, concrete or tangible result. Specifically, the Official Action asserts that it is unclear whether these claims are operating in a computer or another device. It is

respectfully submitted that the method of this invention can be performed using a computer, and new independent Claims 16 and 17 affirmatively recite this feature.

The new recitation that the claimed steps can be performed using a computer introduces no new matter. The test for sufficiency of support is whether the disclosure of the original application relied upon "reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter." *Ralston Purina Company v. Far-Mar-Co., Inc.*, 227 USPQ 177, 179 (Fed. Cir. 1985). Stated another way, the fundamental inquiry is whether the material added by amendment was inherently contained in the original application. *TurboCare Division of Demag Delaval Turbomachinery Corp. v. General Electric Co.*, 60 USPQ2d 1017, 1022 (Fed Cir 2001).

The term "calculation" is used throughout the Applicants' specification in describing the methods of this invention. One of ordinary skill in the art would know that calculations such as those described were routinely performed by computers at the time this application was filed. As such, one skilled in the art would understand that the inventors had possession of the claimed subject matter at that time. Thus, the use of a computer to perform the claimed steps is inherently included in the written description. Because one skilled in the art would understand that the invention can be implemented using a computer based on a fair reading of the specification, new Claims 16 and 17 introduce no new matter.

The Official Action also asserts that it is unclear what, if any, result can be calculated and how the invention could be used in a real world environment. It is respectfully submitted that the specification itself includes examples of how the invention can be used. Specifically, beginning on page 16, an example is provided relating to blood cell regulation in the human body. Further, beginning on page 18, an example is provided that relates to detection of data that are characteristic

of sleeping and waking modes of humans. These real world applications clearly provide useful and tangible results.

It is respectfully submitted that the implementation of the present invention by way of a computer, as inherently described in the specification, demonstrates that the invention is embodied in the technological arts. Further, the examples in the specification show that that invention provides a useful, concrete and tangible result. For these reasons, it is respectfully requested that the rejection under 35 U.S.C. §101 be reconsidered and withdrawn.

*Conclusion*

For the reasons set forth above, it is respectfully requested that all of the objections and rejections set forth in the Official Action be reconsidered and withdrawn. It is respectfully submitted that the entire application is now in condition for allowance, which action is earnestly solicited. If the Examiner believes that further minor amendments or corrections as to matters of form would expedite the allowance, the Examiner is invited to telephone the Applicants' undersigned representative.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'T. Daniel Christenbury', written in a cursive style.

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